Premalignant and Malignant Epithelial Neoplasms

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DISCLOSURES

None

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Essential Dermatopathology
Premalignant and Malignant Epithelial Neoplasms
Actinic keratosis

• Usually multiple
• Covered with adherent scale
• No induration
• Histologic variants
  • Hypertrophic
  • Atrophic
  • Bowenoid
  • Acantholytic
  • Pigmented
Bowen’s disease

- Usually solitary, larger than AK
- Can occur on sun exposed or sun protected skin
- Can occur on the penis (erythroplasia of Queyrat)
- Progression to invasive SCC 3-5% to 11%
The eyeliner sign
Squamous Cell Carcinoma

- Sun damaged skin
- Secondarily in
  - Scars (burns, Marjolin’s ulcer)
  - Radiation sites
  - Inflammatory dermatoses
    - Lichen planus
    - Lichen sclerosus
- Higher incidence in immunosuppressed patients
- Variants – classic, adenoid, mucin producing, spindle cell, verrucous carcinoma, clear cell, basaloid, etc.
Risk stratification of cutaneous SCC

- 180,000 to 520,000 tumors/yr in the US
- 2-5% metastasis rate, typically preceded by local recurrence and regional spread
- Brigham and Women’s Hospital high risk factors
  - Depth into subcutis
  - Perineural invasion of nerves > 0.1 mm
  - Poor differentiation
- Other factors

Baum, et al. JAAD 2018
## RISK FACTORS FOR LOCAL RECURRENCE OR METASTASES

<table>
<thead>
<tr>
<th>H&amp;P</th>
<th>Low Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/size(^1)</td>
<td>Area L &lt;20 mm</td>
<td>Area L ≥20 mm</td>
</tr>
<tr>
<td>Borders</td>
<td>Area M &lt;10 mm(^4)</td>
<td>Area M ≥10 mm</td>
</tr>
<tr>
<td>Primary vs. recurrent</td>
<td>Well-defined</td>
<td>Poorly defined</td>
</tr>
<tr>
<td>Immunosuppression</td>
<td>Primary</td>
<td>Recurrent</td>
</tr>
<tr>
<td>Site of prior RT or chronic inflammatory process</td>
<td>(-)</td>
<td>(+)</td>
</tr>
<tr>
<td>Rapidly growing tumor</td>
<td>(-)</td>
<td>(+)</td>
</tr>
<tr>
<td>Neurologic symptoms</td>
<td>(-)</td>
<td>(+)</td>
</tr>
<tr>
<td>Pathology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of differentiation</td>
<td>Well or moderately differentiated</td>
<td>Poorly differentiated</td>
</tr>
<tr>
<td>Acantholytic (adenoid), adenosquamous (showing mucin production),</td>
<td>(-)</td>
<td>(+)</td>
</tr>
<tr>
<td>desmoplastic, or metaplastic (carcinosarcomatous) subtypes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth(^2,3): Thickness or Clark level</td>
<td>&lt;2 mm or I, II, III</td>
<td>≥2 mm or IV, V</td>
</tr>
<tr>
<td>Perineural, lymphatic, or vascular involvement</td>
<td>(-)</td>
<td>(+)</td>
</tr>
</tbody>
</table>

Area H = “mask areas” of face (central face, eyelids, eyebrows, periorbital, nose, lips [cutaneous and vermilion], chin, mandible, preauricular and postauricular skin/sulci, temple, ear), genitalia, hands, and feet.
Area M = cheeks, forehead, scalp, neck, and pretibia.
Area L = trunk and extremities (excluding pretibia, hands, feet, nail units, and ankles).
Verrucous Carcinoma

• Low grade squamous cell carcinoma
• First described in the oral cavity
• Highly differentiated, ultimately can invade deeply
• Regional metastases late, if at all
Keratoacanthoma (KA)

- Solitary
  - Separated from SCC in 1950
  - Most on sun exposed areas
  - Period of rapid growth, then involution
  - Increased in immunosuppressed, Muir-Torre syndrome
  - Variants – Giant KA, KA centrifugum marginatum, subungual KA
- Multiple
  - Ferguson Smith (multiple self healing)
    - Childhood or adolescence
  - Grzybowski (eruptive)
    - Adults, can involve mucosa
Differential diagnosis of SCC

- Pseudocarcinomatous hyperplasia
  - Deep fungal infections
  - Bromoderma
  - Pyoderma vegetans
  - Edges of ulcers of various causes
  - Granular cell tumor
  - Gout
Basal Cell Carcinoma

- 5 major variants
  - Superficial
  - Nodular
  - Micronodular
  - Infiltrating
  - Fibroepithelioma of Pinkus
- Others – pigmented, keratinizing, cystic, morpheaform, metatypical, basosquamous, etc.
Superficial BCC
A proposal for a thickness-based definition of superficial BCC

• Based on response to imiquimod
• 127 superficial BCCs treated 5x/wk for 6 weeks
• Patients followed for recurrence, both clinically and histologically (mean 34 months)
• Medial tumor thickness
  • Non-recurrent cases 0.26 mm
  • Recurrent cases 0.57 mm
• No tumor \(\leq 0.4\) mm recurred
• 58% of tumors >0.4 mm recurred

Nodular BCC
Micronodular BCC
Infiltrating BCC
Fibroepithelioma of Pinkus
Differential diagnosis of BCC

- Adnexal tumors
  - Trichoepithelioma
  - Pilomatrixoma
  - Eccrine acrospiroma
- Sebaceous carcinoma
- Merkel cell carcinoma
- Basaloid carcinomas of other organ systems
trichoepithelioma
d
basal cell carcinoma
desmoplastic trichoepithelioma

infiltrative basal cell carcinoma
Thank You!